TREATMENT AND PREVENTION OF HIV AND OTHER VIRAL INFECTIONS

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of U.S. Serial No. 09/015,830, filed January 29, 1998 and claims priority from U.S. Provisional Application Serial No. 60/114,540, filed December 29, 1998.

BACKGROUND OF THE INVENTION

Promising treatments for human immunodeficiency virus-type (HIV) have been developed over the past few years, including combination therapy with protease inhibitors. The cost associated with such treatments is prohibitive, however, as the spread of Acquired Immune Deficiency Syndrome (AIDS) is concentrated in regions of the world with limited financial resources. Although the AIDS incidence and mortality have been decreasing in the United States, it is estimated that 16,000 people worldwide are being infected with HIV each day. In certain African countries, infection rates have reached 25%. See, Balter, M., Science, 1998, 280:1863-1864. Treatment success also has been limited by poor tolerance of the treatments by patients and the emergence of resistant strains of HIV. Thus, a need exists for an effective HIV treatment that is well tolerated and relatively inexpensive.

SUMMARY OF THE INVENTION

The invention is based on the discovery that N-glycolylneuraminic acid and related compounds can be used to prevent or treat viral infections, as well as other pathogenic infections. N-glycolylneuraminic acid is a complex galactose molecule that is produced in many non-human mammals. N-glycolylneuraminic acid was identified from extracts of baboon peripheral blood monocytes (PBMCs) that were capable of inhibiting HIV-1 replication in and/or infection of human cells. As N-glycolylneuraminic acid is a carbohydrate, toxicity is minimal. Thus, the invention provides a safe and effective treatment of HIV.